

U.S. Application No. 10/539,014  
 Attorney Docket No. 2003B133D US  
 Response to OA of June 28, 2006  
 Response Dated September 27, 2006

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### REMARKS

Reconsideration of the above identified application in view of the remarks following is respectfully requested. Claims 1-85 are in pending in this case.

Claims 1-85 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. The Office Action indicates in (2)(a) that "if m is determined over a range of conditions in each diluent, it would appear determining m for individual polymer is not possible." Applicant respectfully disagrees.

The formula  $F = 1 - \{m A / (1 + mA)\}$  can be reorganized into a simple linear Equation in regarding to "m". Both "A" and "F" are readily measured on any given polymer sample. Having determined A and F, m is readily solved for mathematical solution. For individual polymer, the solution of the Equation is also the "best fit" of the equation. The Table below, which is essentially identical to Table 26 in the application shows that Mol% Isoprene is experimentally determined and F is experimentally determined. "A" is the molar ratio of Isoprene to Isobutylene. Mol % Isoprene is measured. Mol% Isobutylene is determined by subtracting mol% Isoprene from 100. Thus  $A = \text{mol\% Isoprene} / (100 - \text{mol\% Isoprene})$ . Note that in this table each m is designated for each particular run. The undersigned will readily provide this Table via a 1.132 affidavit should the Examiner so desire.

Table 26

Example	Diluent	Yield wt. %	Mol% pMS	% BSB	m	T (°C)
149	CH <sub>3</sub> Cl	95.4	2.02	45.1	59	-95
		41.9	4.18	33.1	46	
		80.7	9.65	22.3	33	
		12.4	16.6	13.8	31	

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		9.5	23.3	9.36	32	
150	CH <sub>2</sub> FCF <sub>3</sub>	93.0	1.89	58.6	37	-95
		73.1	4.95	40.6	28	
		39.8	7.60	32.5	25	
		32.2	9.75	28.0	24	
		55.6	16.2	16.4	26	
151	CH <sub>3</sub> CHF <sub>2</sub>	82.9	1.63	44.7	75	-95
		51.0	4.08	28.2	60	
		72.4	6.53	23.1	48	
		60.9	9.41	16.1	50	
		63.5	14.9	11.4	44	
152	CH <sub>3</sub> Cl	76.3	19.7	7.53	50	-80
		100	2.3	46.6	49	
		100	4.0	34.8	45	
		100	9.4	21.8	35	
		100	12.8	15.1	38	
153	CH <sub>2</sub> FCF <sub>3</sub>	100	2.1	53.5	41	-80
		100	4.2	37.3	38	
		100	6.6	28.2	36	
		100	8.6	26.9	29	
		100	11.9	18.2	33	
154	CH <sub>3</sub> CHF <sub>2</sub>	100	2.2	43.9	57	-80
		100	4.1	28.9	58	
		100	6.7	20.0	56	
		100	9.2	15.1	55	
		100	12.6	12.6	48	

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$A^* = (\text{mol\%isoprene/mol\% isobutylene} = \text{mol\% isoprene}/(100 - \text{mol\%isoprene}))$

$F^* = \text{Triad fraction.}$

In the case of individual polymer, the "best fit" method yields the exact same "m" by solving the equation because the mathematical solution of the equation is the "best" fit of the equation. However, for multiply polymers, it is well known to an ordinary skill person that the experimental data varies within allowable error-range related to the measurement technique. Therefore, the "best fit" method of determining "m" is consistent with the solution method of determining "m" because applicants were in good faith to determine "m" by best fitting multiple data points measured experimentally.

Applicants therefore respectfully submit that both "best fit" method and the "solution" method are consistent with each other. Withdrawal of the rejection is respectfully requested.

In response the rejection raised in (2)(b) of the Office Action, applicants respectfully submit that a person skilled in the art would recognize that the term "best fit" means "the least square best fit". The data in Table 26 of the application clearly demonstrated that the best fit method used in the application is the well recognized "least square best fit." However, applicants respectfully submit that the "best fit" is not indefinite because the "best fit" has to be within the range of the experimental error no matter how many data points were used in determination of the m value by using the "best fit" method.

Withdrawal of the rejection is respectfully requested.

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In view of the above amendments and remarks it is respectfully submitted that the claims in this case are in condition for allowance. Prompt notice of allowance is respectfully solicited.

Respectfully submitted,

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Date:

Xiaobing Feng  
Xiaobing Feng  
Registration No. 57,231  
Attorney for Applicant

ExxonMobil Chemical Company  
Law Technology Department  
P.O. Box 2149  
Baytown, Texas 77522-2149  
Telephone No. 281/834-0355  
Facsimile No. 281/834-2495